

**AMENDMENTS TO THE CLAIMS:**

**Please amend the claims as follows:**

1. (Currently amended) A system for correcting approximate expressions used in geometrical correction of projected images, said system comprising:
  - a projector which operates under ~~the~~ a control of a program; ~~and~~
  - ~~a screen onto which an image emitted from said projector is projected,~~
  - wherein said projector ~~includes~~ comprises means for performing a geometrical transformation on a projected image emitted from said projector in accordance with ~~the~~ a shape of a projection surface of said a screen, using a predetermined approximate expression to correct the projected image for distortion ~~due to the shape of the projection surface of said screen,~~ and a value entered for substitution into at least one of a variable and a parameter to transform said predetermined approximate expression.
2. (Currently amended) The system for correcting approximate expressions used in geometrical correction of projected images according to claim 1, wherein said projector comprises:
  - input means for entering a the value for substitution into at least one of a variable and a parameter to transform the approximate expression;
  - calculating means for calculating numerical values for transformation using the entered value and the approximate expression previously held in said projector;
  - image processing means for transforming the projected image emitted from said projector based on ~~the~~ a result of the calculation made by said calculating means; and
  - optical output means for projecting the image transformed by said image processing

means.

3. (Currently amended) A system for correcting approximate expressions used in geometrical correction of projected images, said system comprising:

a computer which operates under ~~the~~ a control of a program; and

a projector; ~~and~~

~~a screen onto which a projected image emitted from said projector is projected,~~

wherein:

said computer ~~includes~~ comprises calculating means for calculating numerical values for transformation of the projected image emitted from said projector from a predetermined approximate expression to correct the projected image for distortion ~~due to the shape of a projection surface of said screen, and values~~ and at least one value entered for substitution into at least one of a variable and a parameter for transforming the approximate expression, and

said projector ~~includes~~ comprises image processing means for receiving the numerical values ~~to~~ for transformation of the projected image calculated by said computer to transform the projected image, and optical output means for projecting the image transformed by said image processing means onto ~~said~~ a screen.

4. (Currently amended) The system for correcting approximate expressions used in geometrical correction of projected images according to claim 1, wherein said screen ~~includes~~ comprises a cylindrical or a spherical projection surface, and said approximate expression is comprises an equation representative of a parabola.

5. (Currently amended) The system for correcting approximate expressions used in geometrical correction of projected images according to claim 2, wherein said screen ~~includes~~ comprises a cylindrical or spherical projection surface, and said approximate expression is comprises an equation representative of a parabola.

6. (Currently amended) The system for correcting approximate expressions used in geometrical correction of projected images according to claim 3, wherein said screen ~~includes~~ comprises a cylindrical or spherical projection surface, and said approximate expression is comprises an equation representative of a parabola.

7. (Currently amended) The system for correcting approximate expressions used in geometrical correction of projected images according to claim 1, wherein said screen ~~includes~~ comprises a projection surface composed of walls with a corner between both walls, and said approximate expression is comprises a linear equation for correcting the corner between said walls.

8. (Currently amended) The system for correcting approximate expressions used in geometrical correction of projected images according to claim 2, wherein said screen ~~includes~~ comprises a projection surface composed of walls with a corner between both walls, and said approximate expression is comprises a linear equation for correcting the corner between said walls.

9. (Currently amended) The system for correcting approximate expressions used in geometrical correction of projected images according to claim 3, wherein said screen ~~includes~~ comprises a projection surface ~~composed~~ comprised of walls with a corner between both walls, and said approximate expression ~~is~~ comprises a linear equation for correcting the corner between said walls.

10. (Currently amended) The system for correcting approximate expressions used in geometrical correction of projected images according to claim 1, wherein said screen ~~includes~~ comprises a sinusoidally waved projection surface, and said approximate expression ~~is~~ comprises an equation representative of a trigonometric function.

11. (Currently amended) The system for correcting approximate expressions used in geometrical correction of projected images according to claim 2, wherein said screen ~~includes~~ comprises a sinusoidally waved projection surface, and said approximate expression ~~is~~ comprises an equation representative of a trigonometric function.

12. (Currently amended) The system for correcting approximate expressions used in geometrical correction of projected images according to claim 3, wherein said screen ~~includes~~ comprises a sinusoidally waved projection surface, and said approximate expression ~~is~~ comprises an equation representative of a trigonometric function.

13. (New) A projector comprising:

a storage device that stores a predetermined approximate expression for correcting a

projected image for distortion; and

a calculator that performs a geometrical transformation for said projected image emitted from said projector, in accordance with said predetermined approximate expression.

14. (New) The projector according to claim 13, further comprising:

a receiver to receive a value for substitution as one of a parameter and a variable into said predetermined approximate expression.

15. (New) The projector according to claim 14, wherein said value comprises a value entered by a user using an input device.

16. (New) The projector according to claim 15, wherein said value entered by said user comprises a numerical value entered through said input device.

17. (New) The projector according to claim 15, wherein said input device comprises a slide bar through which said user interacts to enter said value.

18. (New) The projector according to claim 17, wherein said slide bar comprises a slide bar located on one of:

said projector; and

a graphical user interface (GUI) associated with a display device for said projector.

19. (New) The projector according to claim 15, wherein said input device comprises a graphical user interface (GUI) associated with a display device used for said projector.
20. (New) The projector according to claim 13, wherein said predetermined approximate expression comprises one of an expression representative of:
- a parabola;
  - a linear equation; and
  - a trigonometric function.
21. (New) A method of projecting an image, said method comprising:
- receiving a value in a projection system used to project an image onto one or more display surfaces, said value to be used for substitution into at least one of a variable and a parameter for correcting an approximate expression used in geometrical correction of said projected image.
22. (New) The method of claim 21, wherein said receiving of said value occurs via one of an input device comprising a graphical user interface (GUI) associated with a display device used for said projection system and an input device located on a component of said projection system.
23. (New) A method for projecting an image, said method comprising:
- receiving at least one value in a computer which operates under a control of a program and provides projection data to a projector, said computer comprising calculating

means for calculating numerical values for transformation of a projected image emitted from said projector from a predetermined approximate expression to correct the projected image for distortion, said at least one value entered for substitution into at least one of a variable and a parameter for transforming the approximate expression;

receiving the numerical values for transformation of the projected image calculated by said computer to transform the projected image; and

projecting the image having been transformed onto at least one display surface.